

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—The Public Orator (Mr. J. E. Sandys) made the following address to the Senate in presenting Mr. Andrew Graham, First Assistant to Prof. Adams at the Observatory, for the complete degree of M.A. *honoris causâ*. Mr. Graham discovered the ninth minor planet *Metis*, a fact cleverly turned to account by the Orator:—

"Dignissime domine, Domine Procancellarie et tota Academia:

"Quam invidenda nobis illorum vita est, qui a rerum terrestrium strepitu remoti, templum quoddam observando celo dedicatum incolunt, ubi noctibus serenis tot lucidorum orbium n ortus obitusque contemplantur, tot stellarum immotarum stationes perpetuas accuratissime definunt, tot siderum errantium cursus prius ignotos admirabiliter quadam divinatione augurantur. Consentaneum nimurum est eum, cui primo quondam Oceani filia, *Metis*, inter sidera affulserat, tot annos in rure illo subarbano cum Nettuni inventore nostro celeberrimo feliciter esse consociatum. Iuvat certe tanti viri adiutorem fidelissimum hodie civitatem nostra donare, virum et linguarum recitationem et studiorum mathematicorum perquam peritum, neque in numeris tantum computandis sollertissimum, sed in sideribus quoque observandis perspicacissimum. Ipse rerum omnium Fabricator, cetera quidem animalia i terram prona spectare passus,

'os homini sublime dedit cælumque tueri,
iussit et erectos ad sidera tollere voltus.'

quanto igitur honore illi digni sunt qui, qua in re ceteris animantibus homines præstant, in ea hominibus ipsis tam præclare antecellunt.

"Vobis præsento virum et de scientia astronomica et de Academia nostra optime meritum, Andream Graham."

SOCIETIES AND ACADEMIES

LONDON

Geological Society, November 7.—J. W. Hulke, F.R.S., president, in the chair.—James Diggle, Charles Anderson Ferrier, and Prof. W. Stephens were elected Fellows of the Society.—The following communications were read:—On the geology of the South Devon coast from Tor Cross to Hope Cove, by Prof. T. G. Bonney, F.R.S., Sec.G.S. The author, after a brief reference to the literature of the subject, stated that the chief petrographical problem presented by this district was whether it afforded an example of a gradual transition from slaty to foliated rocks, or whether the two groups were perfectly distinct. He described the coast from Tor Cross round by the Start Point to Prawle Point, and thence for some distance up the estuary leading to Kingbridge. Commencing again to the north of Salcombe, on the other shore of this inlet, he described the coast round by the Bolt Head and Bolt Tail to Hope Cove. These rocks, admittedly metamorphic, consist of a rather thick mass of a dark mica-schist and of a somewhat variable chloritic schist, which also contains a good deal of epidote. In the lower part of this are some bands of a mica-schist not materially different from the upper mass. It is possible that there are two thick masses of mica-schist, one above and one below the chloritic schist; but, for reasons given, he inclined to the view that there was only one important mass, repeated by very sharp foldings. The junction between the admittedly metamorphic group and the slaty series at Hope Cove, as well as that north of Salcombe, is clearly a fault, and the rocks on either side of it differ materially. Between the Start and Tor Cross the author believes there is also a fault, running down a valley, and so concealed. On the north side of this the rocks, though greatly contorted and exhibiting such alterations as are usual in greatly compressed rocks, cannot properly be called foliated, while on the south side all are foliated. This division he places near Hallsands, about half a mile to the south of where it is laid down on the geological map. As a further proof of the distinctness of the two series, the author pointed out that there were clear indications that the foliated series had undergone great crumpling and folding after the process of foliation had been completed. Hence that it was long anterior to the great earth-movements which had affected the Palæozoic rocks of South Devon. He stated that the nature of these disturbances suggested that this district of South Devon had formed the flank of a mountain-range of some elevation, which had lain to the south. Of the foundations of this we may see traces in the crystalline

gneisses of the Eddystone and of the Channel Islands, besides possibly the older rocks of South Cornwall and of Brittany. He also called attention to some very remarkable structures in the slaty series near Tor Cross, which appeared to him to throw light upon some of the structures observed at times in gneisses and other foliated rocks.—Notes on Brocchi's collection of Subapennine shells, by J. Gwyn Jeffreys, F.R.S. In this paper the author gave the results of an examination of the collection of fossil shells from the Subapennine Pliocene described by Brocchi in his "Conchologia fossile Subapennina," and now preserved in the Museo Civico at Milan. The author cited fifty-five of Brocchi's species, upon most of which the collection furnished more or less interesting information. In conclusion he remarked upon the importance of identifying Brocchi's species with forms still living in the neighbouring seas, and also upon the difficulty of distinguishing between the Upper, Middle, and Lower Pliocene in Italy. From his examination of Italian Pliocene shells he concluded that the deposits containing them were for the most part formed in comparatively shallow water, probably not more than fifty fathoms in depth, a remark which also applies to the Italian Miocene; and that in the case of species still existing no difference can be recognised between Pliocene and recent specimens.—British Cretaceous Nuculidae, by John Starkie Gardner, F.G.S. The author commenced by discussing the question whether the Nuculidae should be separated as a family from the Arcidae, and stated that species of *Leda* and *Nucula* exist and sometimes abound in the marine Cretaceous deposits, with the exception of the White and the Red Chalk, from which, however, he thought that the shells may have been dissolved out. He also referred to the probable derivation of the species from preexisting forms, and discussed the question of how far the relationships thus established could be expressed in the nomenclature of the species, his researches upon the Nuculidae leading him in some cases to suggest a trinomial nomenclature. The probable lines of descent of the shells described in the present paper were also discussed at some length.

Anthropological Institute, November 13.—Prof. Flower, F.R.S., president, in the chair.—The election of the following new members was announced:—Dr. G. B. Barron, Prof. D. J. Cunningham, H. O. Forbes, J. S. Hunt, Capt. E. C. Johnson, R. Morton Middleton, jun., Capt. C. A. Moloney, S. B. J. Skertchley Joseph Smith, jun., and Dr. Johnsoa Symington.—Mr. J. E. Price exhibited a selection of objects from ancient grave mounds in Peru.—Dr. Garson exhibited two iron lamps that he had procured from the Orkney Islands for the Oxford University Museum. They were very similar to the lamps of the Esquimaux described by Dr. E. B. Tylor in his paper read before the Institute at the end of last session; and each consists of two flat receptacles prolonged into a spout-like depression on the anterior portion.—Prof. Flower exhibited the skull of a young chimpanzee (*Troglodytes niger*) which had been sent to him from Lado in the Soulan, by Dr. Emin Bey. It was the subject of acrocephalic deformity, associated with complete synostosis of the coronal suture, and partial obliteration of the sagittal suture, both of which are normally open long after the age to which this individual had attained.—The Director read a paper by Mr. Edward Palmer on some Australian tribes.

Zoological Society, November 20.—Prof. W. H. Flower, F.R.S., president, in the chair.—A letter was read from Mr. G. B. Sowerby, jun., in which he proposed to change the name of *Thracia jacksonensis*, given in his paper "On New Shells," read in January, 1883, to *Thracia brazieri*.—A letter was read from Mr. W. H. Ravencroft, of Colombo, Ceylon, describing the effectual mode in which a female Axis Deer in confinement concealed its young one from observation.—The Secretary exhibited, on the part of Major C. H. T. Marshall, F.Z.S., a specimen of a new Impeyan Pheasant from Chumba, N.W. India, which Major Marshall proposed to name *Lophophorus chumbanus*, and some other birds from the same district.—Mr. H. Seebom, F.Z.S., exhibited and made remarks on a new Owl from Japan, which he proposed to call *Bubo blakistoni*, after Capt. Blakiston, its discoverer.—Mr. H. E. Dresser, F.Z.S., exhibited and made remarks on some Ringed Pheasants from Corea.—Prof. Bell, F.Z.S., exhibited and made remarks upon some Australian Crinoids infested by a large number of Myzostomata.—Prof. Flower read a paper on the characters and divisions of the family Delphinidae, in which the following generic divisions were admitted and defined:—*Monodon*, *Dolphinapterus*, *Phocaena*, *Neomeris*, *Cephalorhynchus*, *Orca*.

cella, Pseudorca, Globicephalus, Grampus, Feresa, Lagenorhynchus, Delphinus, Tursiops, Clymenia, Steno, and Sotalia. Critical remarks were added upon the characters and synonymy of the best-known species of each.—Prof. Flower also gave an account of a specimen of Rudolphi's Rorqual, *Balaenoptera borealis*, Lesson (= *Sibaldius laticeps*, Gray), lately captured in the River Crouch, Essex, being the first well-authenticated example of this species met with in British waters.—A communication was read from Dr. M. Watson, F.Z.S., containing additional observations on the structure of the female organs of the Indian Elephant (*Elephas indicus*).—A communication was read from Mr. F. Moore, F.Z.S., containing the descriptions of some new Asiatic Diurnal Lepidoptera.—A communication was read from Mr. R. Trimen, F.R.S., in which he gave a description of a remarkable semi-melanoid variety of the Leopard (*Felis pardus*) in the Albany Museum, Grahamstown, which had been obtained in the east of the Cape Colony.—A communication was read from the Count H. von Berlepsch and Mr. L. Taczanowski, in which an account was given of an extensive collection of birds made by MM. Stolzmann and Siemiradzki in Western Ecuador.

EDINBURGH

Royal Physical Society, November 21.—The first meeting of the 113th session was held in the Institution Rooms, St. Andrew Square, Dr. Ramsay H. Traquair, F.R.S.S. London and Edinburgh, president, in the chair.—A nest of the reed-warbler, found near Combe Abbey, Warwickshire, was exhibited to the Society by Dr. Herbert.—The opening address of the session was then delivered by Dr. Archibald Geikie, F.R.S.S. London and Edinburgh, Director-General of the Geological Survey of Great Britain and Ireland on "The Relation between Geology and Palaeontology."

SYDNEY

Linnean Society of New South Wales, September 26.—Dr. James C. Cox, F.L.S., in the chair.—The following papers were read:—On a very dolichocephalic skull of an Australian aboriginal, by Baron N. de Mikluho Maclay. The cephalic index of this skull, which was found in the interior of Queensland, was only 58·9, calculated on the ophio-occipital length, and 58·3, calculated by the glabello-occipital length, an index lower probably than that of any skull hitherto described. The skull was not a deformed one in the ordinary sense, but was a fair example of the so-called roof-shaped type of cranium.—On a fossil humerus, by Mr. C. W. De Vis.—Notices of some undescribed species of Coleoptera from the Brisbane Museum, by William Macleay, F.L.S. The species described are a few unnamed Coleoptera occurring in a large collection sent by Mr. De Vis to the author for identification. Their names are:—*Pamborus viridiaureus*, *Catascopus laticollis*, *Eutoma ponticenne*, *Carenum terra-reginae*, *C. ianthinum*, *C. De Visii*, *C. pusillum*, *Tibarisus robustus*, *Pacilus leavis*, *Diphucephala hirtipennis*, *D. carulea*, *D. latipennis*, and *Liparetrus convexiusculus*.

PARIS

Academy of Sciences, November 19.—M. Blanchard, president, in the chair.—Remarks on the recent volcanic disturbances in Sunda Strait; mineralogical analysis of the ashes collected, by M. Daubrée. From the examination of these ashes, which fell at Batavia on August 27, the author considers it highly probable that the surface waters penetrating deeply into the underground cavities, and there becoming superheated, form the chief agency in such volcanic eruptions as those of Krakatoa and Ischia.—On the velocities acquired in the interior of a vessel by the various elements of a fluid during its discharge through a lower orifice (continued), by MM. de Saint-Venant and Flamant.—On the process of purple dyeing amongst the ancients according to a fragment attributed to Democritus of Abdera, by M. Berthelot.—On the production of extremely low temperatures by means of continuous apparatus, by M. Cailletet.—Report on the French expedition to Cape Horn, by M. Martial. The expedition, undertaken mainly to observe the transit of Venus, embarked on board *La Romanche* at Cherbourg on July 17, and reached its destination on September 6. Three contacts were observed under favourable conditions by M. Courcelle-Seneuil. A great part of Tierra del Fuego was visited, numerous dredgings were made at various points, and rich collections, especially botanical and ethnological, were brought back. These included living

specimens of most of the Fuegian flora, two native canoes with their full equipment, a complete hut with all the utensils, arms, and other objects in use amongst the aborigines. A cairn twenty feet high was erected in Orange Bay to commemorate the French expedition to Cape Horn.—On the transformations of which certain equations of the second order are susceptible, by M. R. Liouville.—On the electrochemical energy of light, by M. F. Griveaux.—Observations of the Pons-Brooks comet made at the Paris Observatory (equatorial of the west tower), by M. G. Bigourdan.—Observations of the same comet and of the planet 234 made at the Marseilles Observatory, by M. Coggia.—Photometric observation of an eclipse of the first satellite of Jupiter, by M. A. Obrecht.—Remarks on a formula of Tisserand connected with celestial mechanics, by M. R. Radau.—On the resisting power of a ring, by M. J. Boussineq.—On the curve-lines of wave surfaces, by M. G. Darboux.—Application of a proposition in mechanics to a problem connected with the figure of the earth, by M. E. Brassine.—Note on the action of carbonic acid on saccarine dissolutions more or less charged with lime, by M. D. Loiseau.—On a new kind of ureometer (one illustration), by M. W. H. Greene.—Experiments on the passage of charbon bacteria into the milk of animals affected by charbon, by MM. J. Chambrelet and A. Mousson.—On the embryogeny of *Sacculini carcinis*, an endoparasitic crustacean of the order of Kentrogonides, third note, by M. Yves Delage. In this highly important contribution to the study of parasitic entomology the author proposes to constitute a new order of Kentrogonides, distinct from, but allied to, that of the Cirripedes.—Development of the Stylocephalus, by M. A. Schneider.—On the genus *Ptycho-gaster*, Pomel, a fossil Chelonian found associated with the remains of crocodiles in the Saint-Gérand-le-Puy formations, by M. L. Vaillant.—On "vaugnerite," a phosphatiferous rock occurring in the Irigny district on the banks of the Rhône, by M. F. Gonnard.—Note on a prehistoric flint mine worked during the Stone age at Mur-de-Barrez, Aveyron, by M. E. Cartailhac.—Concluding remarks on the waterspouts observed at Villefranche-sur-Mer, Maritime Alps, during the month of October, 1883, by M. J. Jeannel.—Note on the effects produced by lightning during a thunderstorm at Rambouillet on November 10, by M. A. Laugier.

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